Patent Application Publication

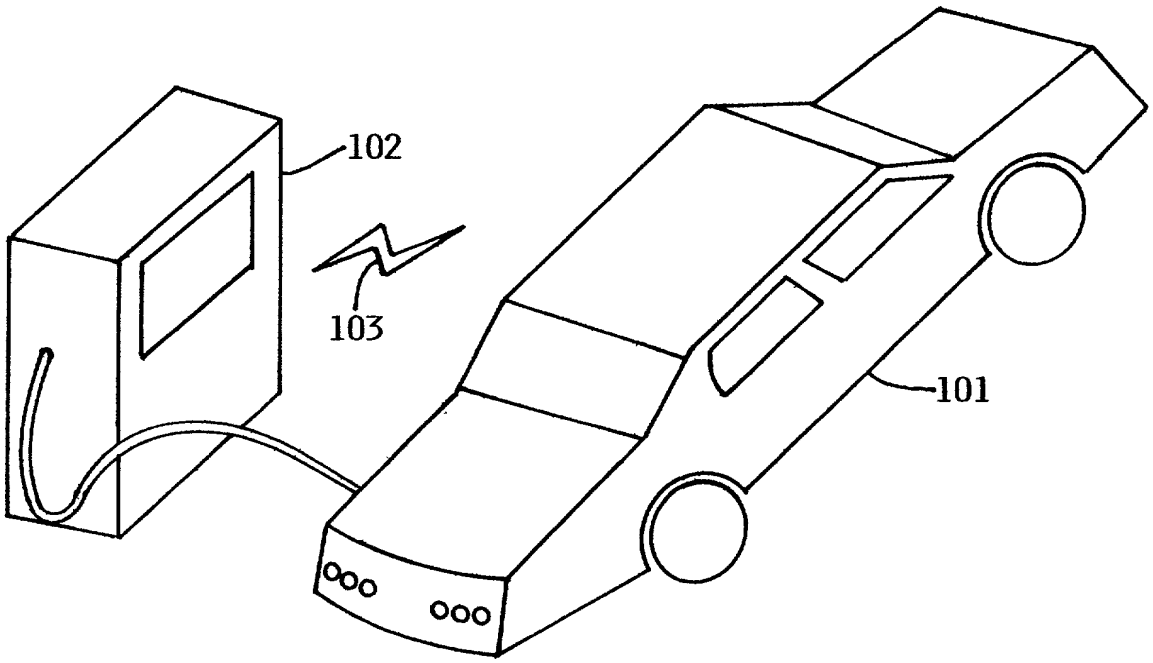

FIG. 1

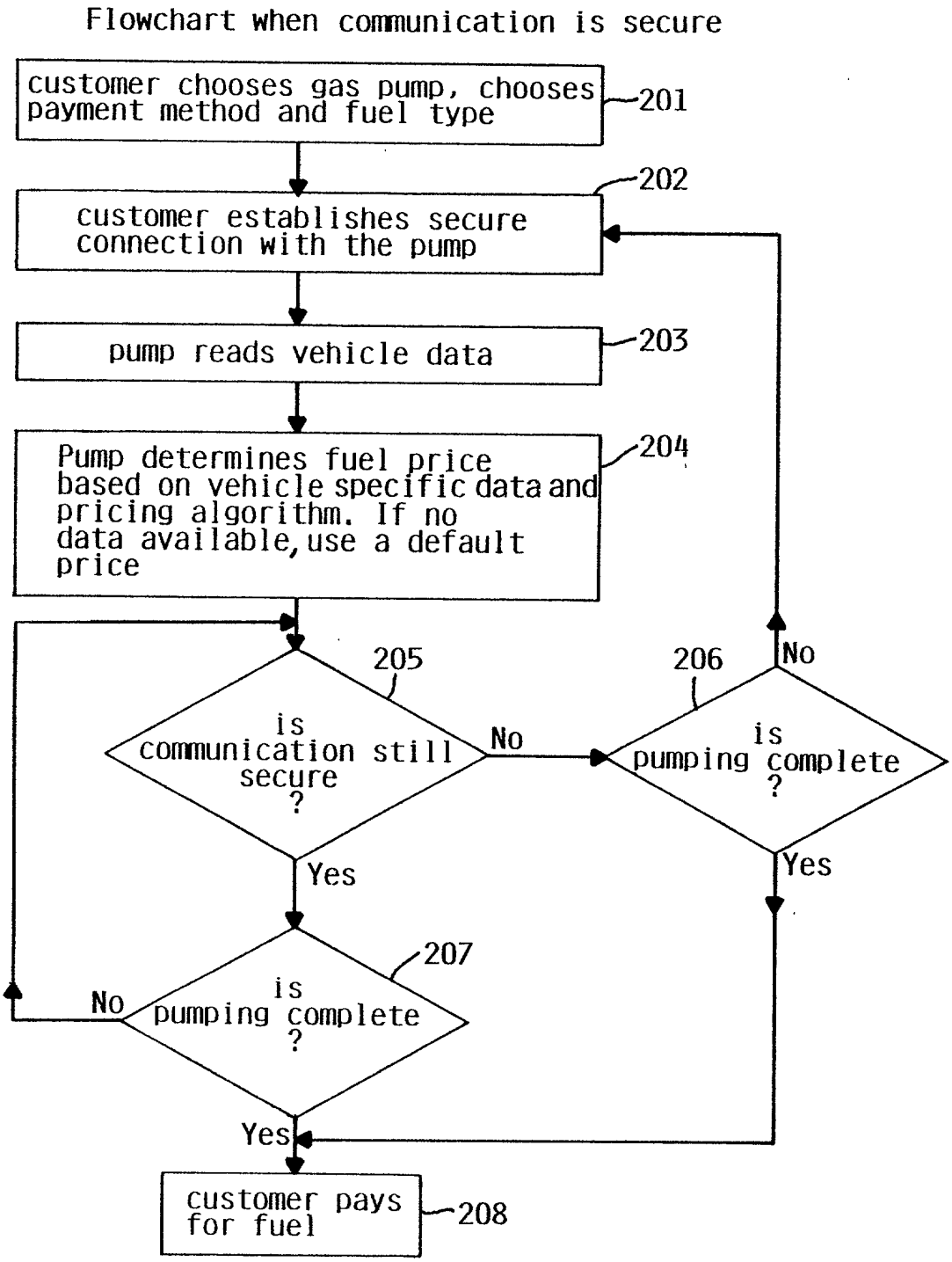
Flowchart when communication is secure
customer chooses gas pump, chooses payment method and fuel type
201
customer establishes secure connection with the pump
202
pump reads vehicle data
203
Pump determines fuel price based on vehicle specific data and pricing algorithm. If no data available, use a default price
204
205
is communication still secure ?
No
Yes
206
is pumping complete ?
No
Yes
207
is pumping complete ?
No
Yes
customer pays for fuel
208

FIG. 2

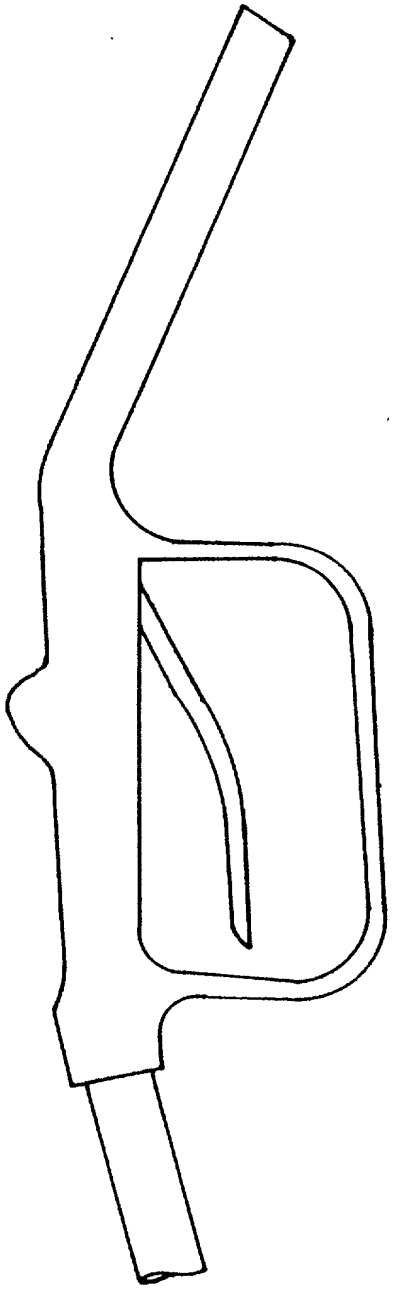

FIG. 3A

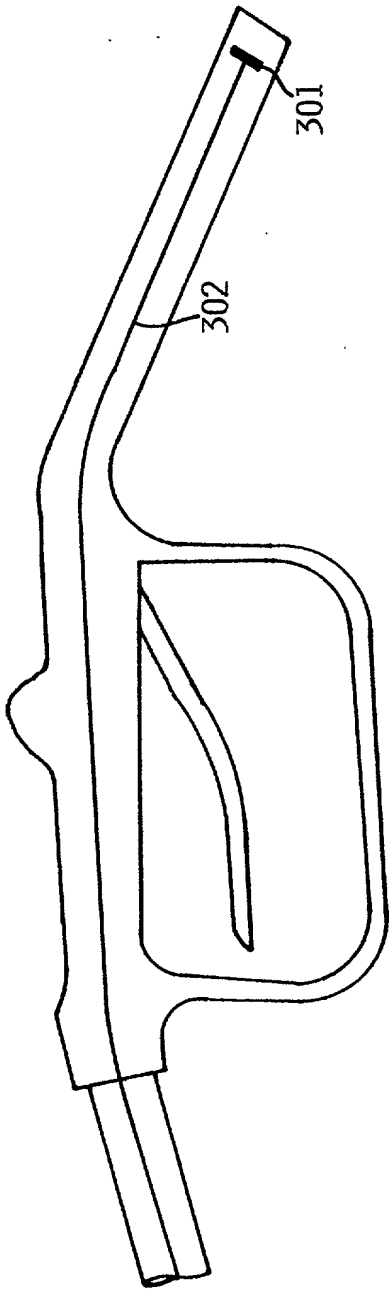

FIG. 3B

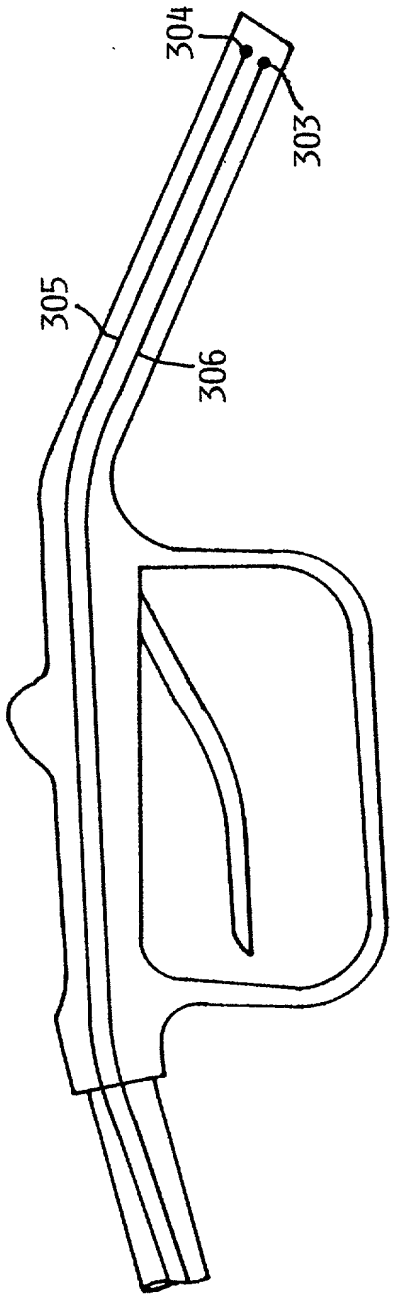

FIG. 3C

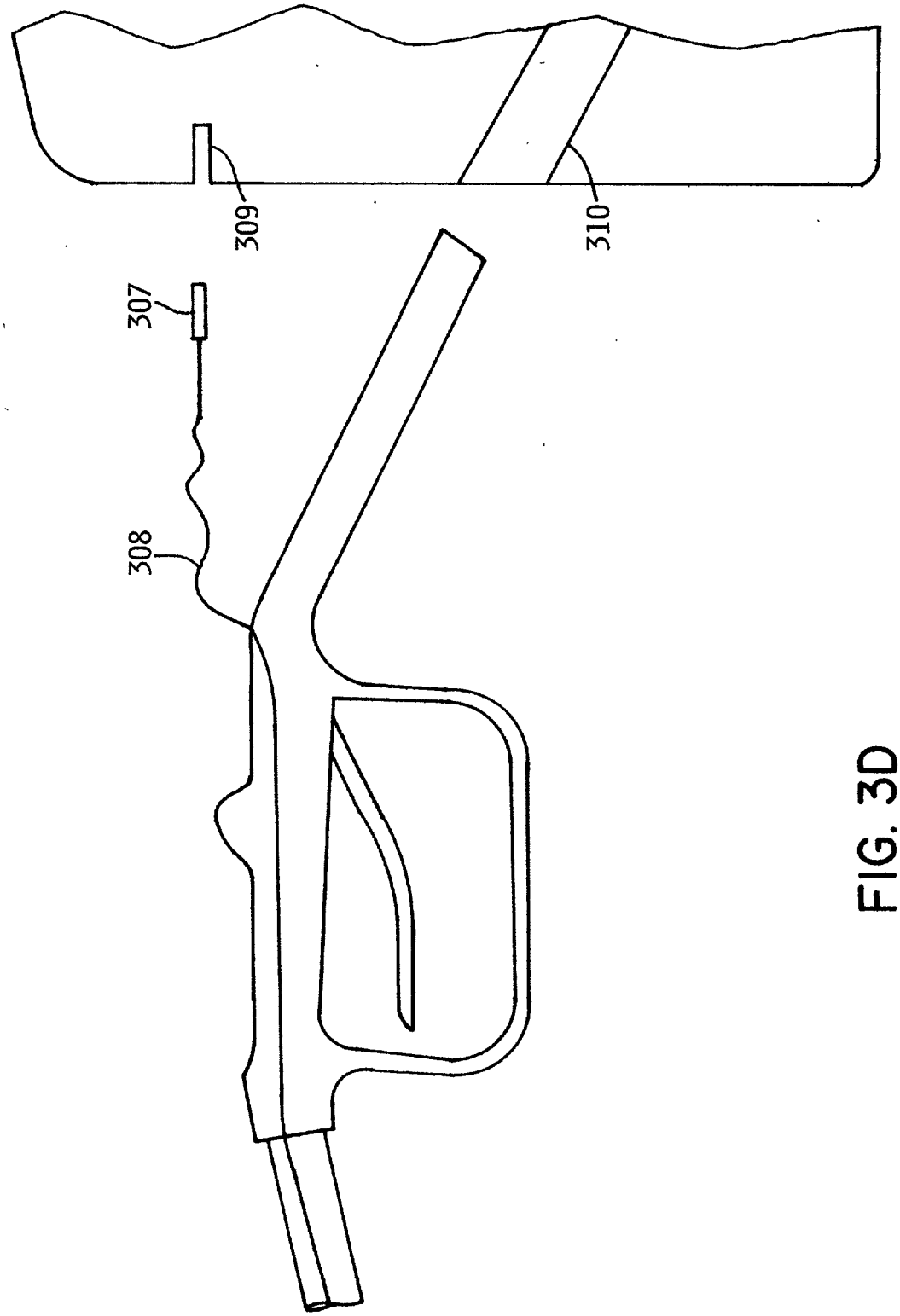

FIG. 3D

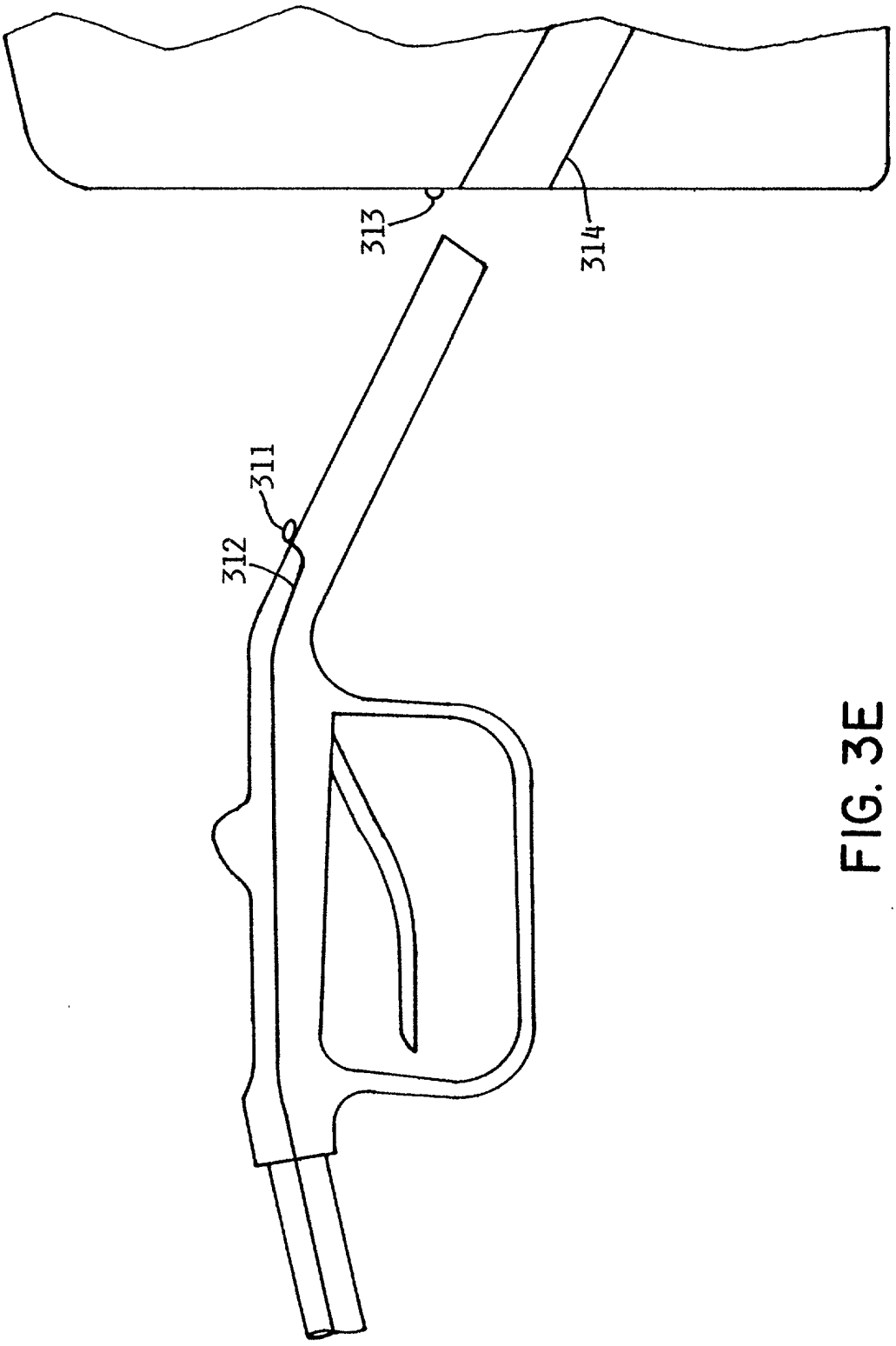

FIG. 3E

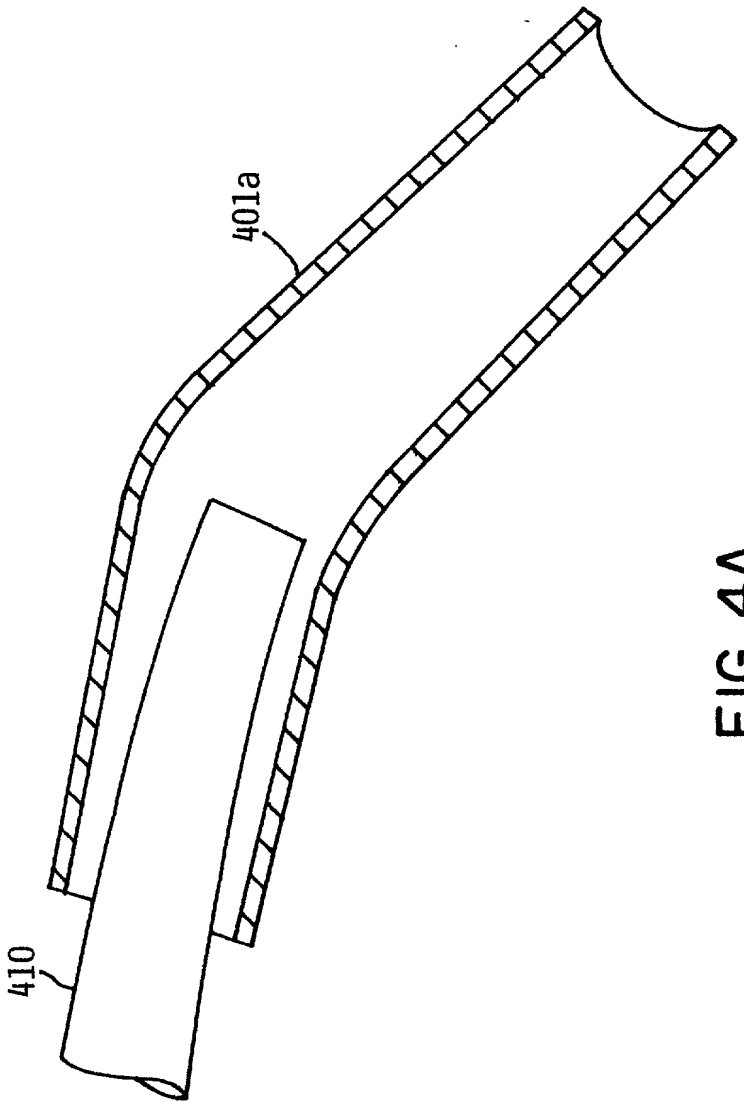

FIG. 4A

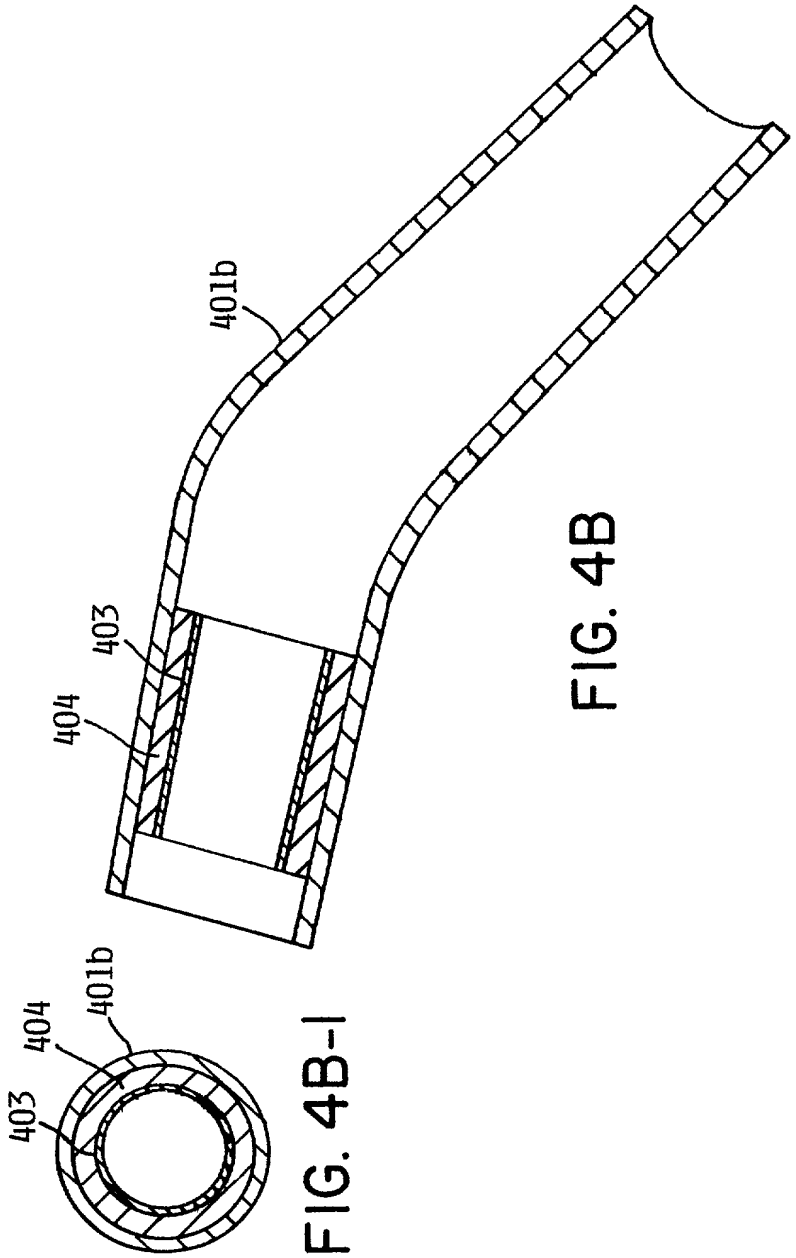

FIG. 4B

FIG. 4B-1

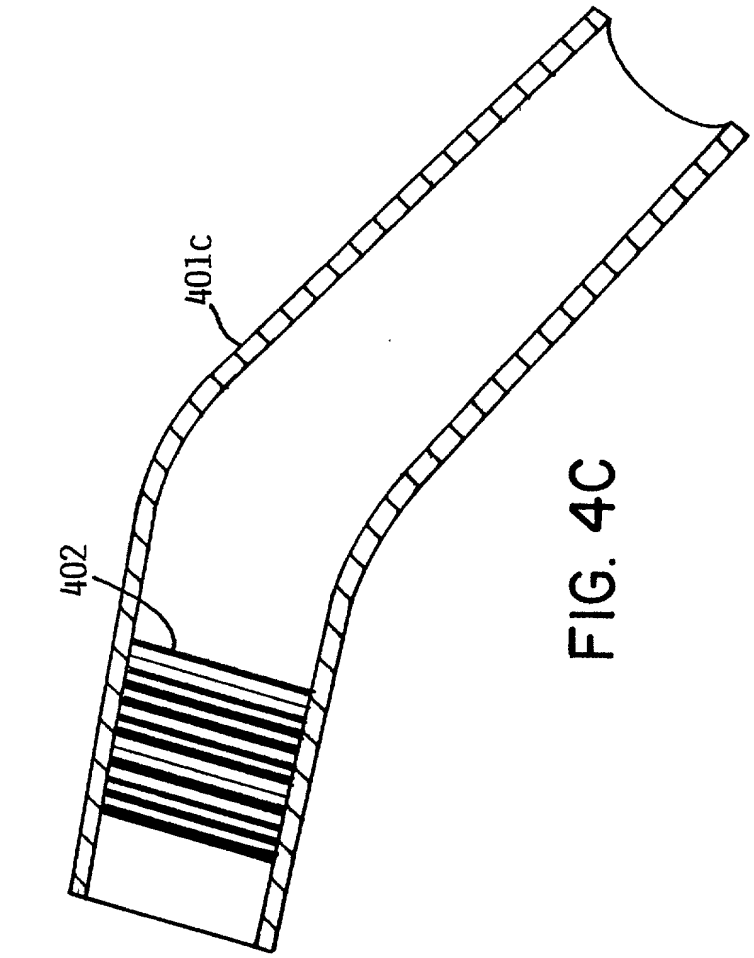

FIG. 4C

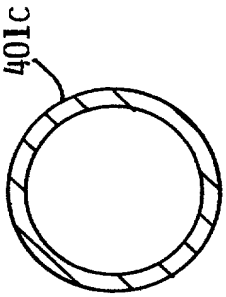

FIG. 4C-1

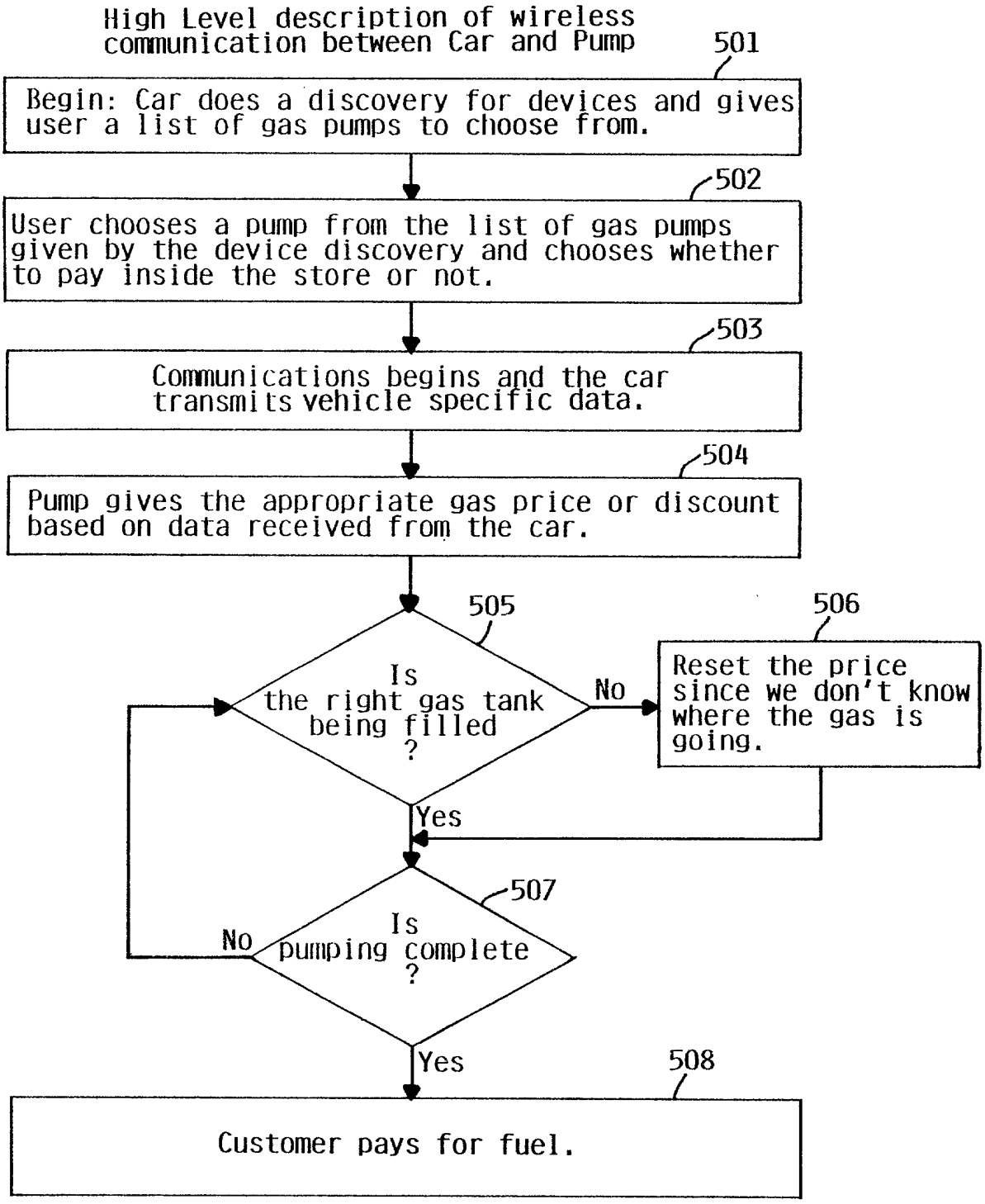
High Level description of wireless communication between Car and Pump
501
Begin: Car does a discovery for devices and gives user a list of gas pumps to choose from.
502
User chooses a pump from the list of gas pumps given by the device discovery and chooses whether to pay inside the store or not.
503
Communications begins and the car transmits vehicle specific data.
504
Pump gives the appropriate gas price or discount based on data received from the car.
505
Is the right gas tank being filled ?
No
506
Reset the price since we don't know where the gas is going.
Yes
507
Is pumping complete ?
No
Yes
508
Customer pays for fuel.

FIG. 5

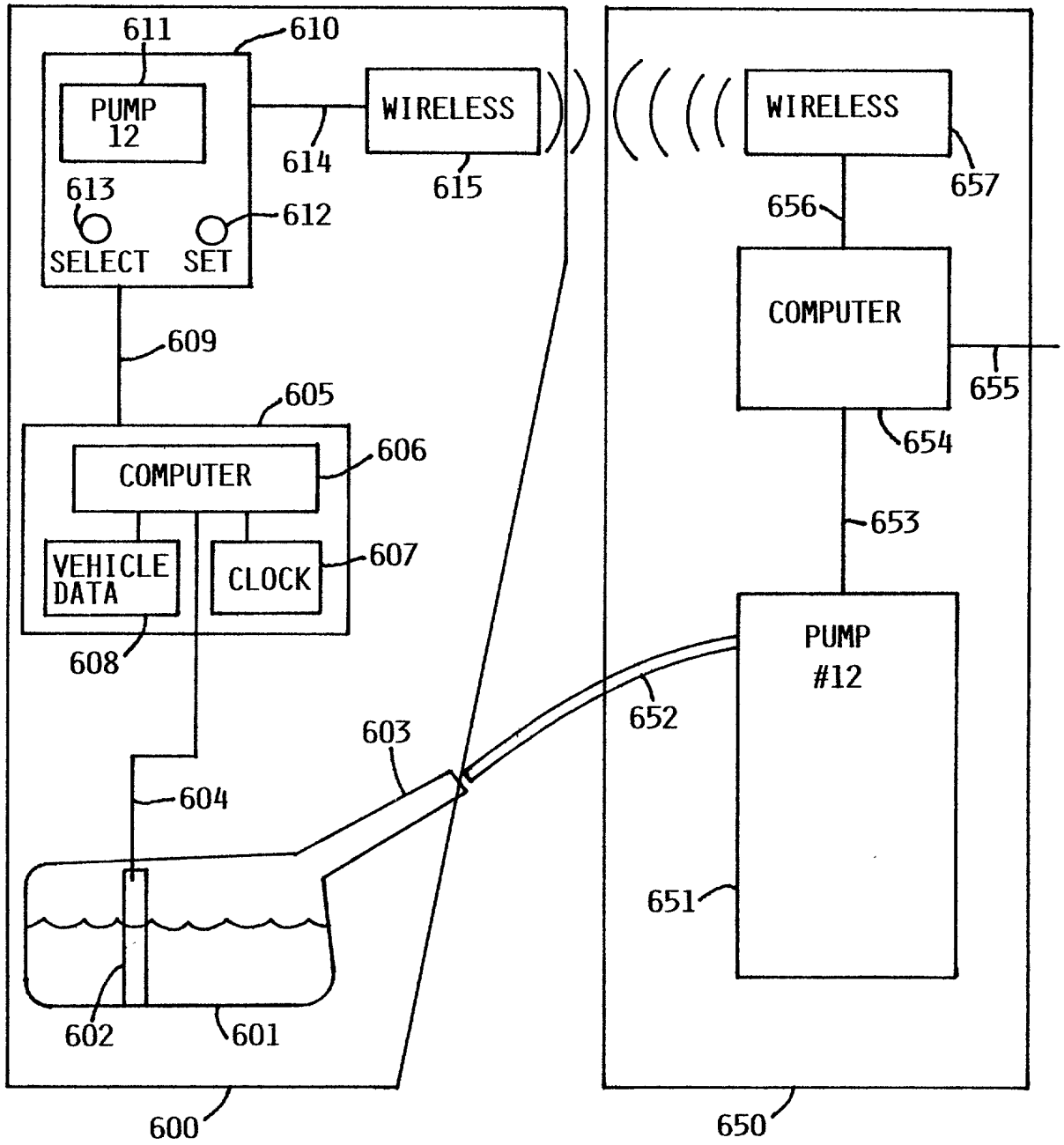
611
610
PUMP
12
WIRELESS
614
615
WIRELESS
657
613
SELECT
SET
612
656
COMPUTER
655
609
605
654
COMPUTER
606
653
VEHICLE
DATA
CLOCK
607
608
PUMP
#12
652
603
604
651
602
601
600
650

FIG. 6